BRUHAT BANGALORE MAHANAGARA PALIKE

NAME OF THE PROJECT: Construction of RO plant at Harohalli Village in Chowdeshwari ward no-02 of Yelahanka Sub division

Estimate Cost 2700000.00

Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
1	Earth work excavation by manual means for drains,canals, waste weir, draft, approach channels, key trenches, foundation of bridges and such simillar works in all kinds of soils , as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, excavated surface leveled and sides neatly dressed disposing off the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools & other appurtenaces required to complete the work. Depth exceeding 1.5m, but not exceeding 3 m (PWD SR 2021-22 Vol -I Pg 5 item No. 1.4.2)								
	Footings								
		Cum	6	1.20	1.20	1.50	12.96		
	SSM Footing								
	Along long direction	Cum	2	5.20	0.75	0.90	7.02		
	Along Short direction	Cum	2	4.20	0.75	0.90	5.67		
	Sump	Cum	1	2.50	2.50	2.00	12.50		
	Basic rate							199.00	
	Area weightage 10%							19.9	
	Total						**38.15**	**218.9**	**8351.04**
2	KSRB 2.8 : Providing and Filling in foundation with granite / trap broken metal 100mm. and down size, with approved sand including hand packing, ramming, watering, including cost of all materials and labour with all lead and lift. complete as per specifications. Specification No. (PWD SR 2021-22 Vol -2 CORRIGENDA,item No. 6.4)								
	Footings								
		Cum	6	1.20	1.20	0.10	0.86		
	Sump	Cum	1	2.50	2.50	0.10	0.63		
	Basic rate							2561.00	
	Area weightage 10%							256.1	
	Total						**1.49**	**2817.1**	**4194.66**
3	Providing and laying in position plain cement concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. Mix 1:3:6 (M10) Using 40 mm nominal size graded crushed coarse aggregates.Specification (PWD SR 2021-22 Vol -I Pg 15 item no 2.1.3)								
	Footings								
		Cum	6	1.20	1.20	0.15	1.30		
	SSM Below								
	Along long direction	Cum	2	6	0.75	0.15	1.35		
	Along Short direction	Cum	2	4.5	0.75	0.15	1.01		
	Sump	Cum	1	2.50	2.50	0.15	0.94		
	Basic rate							5554.00	
	Area weightage 10%							555.4	
	Total						**4.60**	**6109.40**	**28078.80**

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Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
4	Providing and laying in position Reinforced cement concrete for all Sub structures of building, Irrigation works, Sub structure works of bridges, Drain works & other parallel works from 0.50m to 3.50 m height. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necesary, including all lead & lifts, cost of all materials of quality, confirming to the requirements of relevant IS codes, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork to be paid separately) Mix 1:2:4 (M15) Using 20 mm nominal size graded crushed coarse aggregates (PWD SR 2021-22 Vol -I Pg 17 item no 2.4.1)								
	SSM Above								
	Along long direction	Cum	2	6	0.60	0.1	0.72		
	Along Short direction	Cum	2	4.5	0.60	0.1	0.54		
	Basic rate							5880.00	
	Area weightage 10%							588	
	Total						**1.26**	**6468.00**	**8149.68**
5	Providing Size Stone masonry with hard stone in foundation & plinth with Cement mortar 1:6 (1 cement : 6 coarse sand) (Vol 2/ P No-9/ I no- 5.4 of PWD SR 2021-22)								
	SSM								
	Along long direction	Cum	2	6	0.6	0.75	5.40		
	Along Short direction	Cum	2	4.5	0.6	0.75	4.05		
	Basic rate							5352.00	
	Area weightage 10%							535.2	
	Total						**9.45**	**5887.2**	**55634.04**
6	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations and other similar works etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m. ((PWD SR 2021-22 Vol- 1 P.No -7 / I.No -1.9)								
	Filling Available of Excavated Earth								
	Earth Work Excavation	Cum	Qty Vide From 01				38.15		
	PCC for Footing	Cum	Qty Vide From 03				-4.60		
	Filling in foundation with granite / trap broken metal	Cum	Qty Vide From 02				-1.49		
	SSM Footing	Cum	Qty Vide From 05				-9.45		
	Footing Concrete Quantity	Cum					-2.59		
	Basic rate							204.00	
	Area weightage 10%							20.4	
	Total						**20.02**	**224.40**	**4493.16**
7	**Loading and Unloading of Stone Boulder**/Stone aggregates/ Sand/Kankar/Moorum. (Tipper 14 m3) (PWD SR 2021-22 Vol-III Page No.3, Item No.1.1C)								
	Excavated Earth	Cum					38.15		
	Filling Available of Excavated Earth						-20.02		
	Basic rate							74.00	
	Area weightage 10%							**7.40**	
	Total						**18.13**	**81.40**	**1475.54**

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Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
8	Cost of Haulage Excluding Loading and Unloading Taking output 10 t load and lead 10 km = 100 t.km (PWD SR 2021-22 Vol-III Page No.3, Item No.1.4A)								
		t.Km		18.13		1.280	23.20256		
	Basic rate							**12.00**	
	8Km 12*8							**96.00**	
	Area weightage 10%							**9.60**	
	Total						**23.20**	**105.60**	**2450.19**
9	Providing and laying in position Reinforced cement concrete for all **Sub structures of building,** Irrigation works, Sub structure works of bridges, Drain works & other parallel works from 0.50m to 3.50 m height. The granite/ trap/ basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necesary, including all lead & lifts, cost of all materials of quality, confirming to the requirements of relevant IS codes, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork to be paid separately) **M25** Design Mix Using 20 mm nominal size graded crushed coarse aggregates (Vol 2/ P No-17/ I no- 2.4.3 of PWD SR 2021-22)									
	Footings								
		Cum	6	1.20	1.20	0.3	2.59		
	Column below plinth								
		Cum	6	0.3	0.45	0.50	0.41		
	Plint Beam								
		Cum	2	6.00	0.2	0.45	1.08		
		Cum	2	4.50	0.2	0.45	0.81		
	For sump								
	Bottom slab	Cum	1	2.50	2.50	0.20	1.25		
	Sump walls	Cum	2	2.50	0.20	2.00	2.00		
		Cum	2	2.50	0.20	2.00	2.00		
	Cover slab	Cum	1	2.50	2.50	0.20	1.25		
	Basic rate							5992.00	
	Add 8% For Shuttering							479.36	
	Sub Total							**6471.36**	
	Area weightage 10%							647.14	
	Total						**11.39**	**7118.50**	**81058.31**
10	Providing and laying in position Reinforced cement concrete for all **Super structures of building** , Road works, Water works, Irrigation works & super structure works of bridges upto 3.50 m height. The granite/ trap/ basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers laid in layers, well compacted using needle vibrators. The cost includes all lead & lifts, cost of all materials, quality confirming to the requirements of relevant IS codes , labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement, dowel bars & formwork to be paid separately) **M25 Design Mix** Using 20 mm nominal size graded crushed coarse aggregates (Vol 2/ P No-17/ I no- 2.5.2 of PWD SR 2021-22)									
	Columns upto beam bottom								
		Cum	6	0.3	0.45	3.00	2.43		
	Basic rate							6186.00	
	Add 10% for Shuttering							618.60	
	Sub total							6804.60	

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Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
	Area weightage 10%							680.46	
	Total						**2.43**	**7485.06**	**18188.70**
	Slab	Cum	1	7.4	6.4	0.15	7.10		
	Basic rate							6186.00	
	Add 20% for Shuttering							1237.20	
	Sub total							7423.20	
	Area weightage 10%							742.32	
	Total						**7.10**	**8165.52**	**58007.85**
	Beams								
	Along long direction	Cum	2	7.40	0.30	0.45	2.00		
	Along Short direction	Cum	2	6.40	0.30	0.45	1.73		
	Basic rate							6186.00	
	Add 20% for Shuttering							1237.20	
	Sub total							7423.20	
	Area weightage 10%							742.32	
	Total						**3.73**	**8165.52**	**30424.73**
	Lintel								
	Along long direction	Cum	2	6.00	0.2	0.2	0.48		
	Along Short direction	Cum	2	4.50	0.2	0.2	0.36		
	Basic rate							6186.00	
	Add 20% for Shuttering							1237.20	
	Sub total							7423.20	
	Area weightage 10%							742.32	
	Total						**0.84**	**8165.52**	**6859.04**
11	Providing Thermo-Mechanically Treated bars of grade Fe-550 Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position, binding and anchoring to adjacent members whereever necessary complete as per Design including cost of material, labour, usage charges complete as per specifications. (The laps and wastages shall not be measured separately) (Vol- 1 P.No. 84/I.No. 11.32 of PWD SR 2021-22 1st Corrigenda)								
	Footing	Cum	Concrete Quantity				2.59		
		kg	Steel assumed 100 Kg/Cum of Concrete				269.6		
	Column	Cum	Concrete Quantity				2.84		
		kg	Steel assumed 140 Kg/Cum of Concrete				396.90		
	Beam	Cum	Concrete Quantity				5.62		
		kg	Steel assumed 120 Kg/Cum of Concrete				673.9		
	Roof Slab	Cum	Concrete Quantity				7.10		
		kg	Steel assumed 100 Kg/Cum of Concrete				852.5		
	Lintel	Cum	Concrete Quantity				0.84		

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Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
		kg	Steel assumed 100 Kg/Cum of Concrete				84.0		
	Sump	Cum	Concrete Quantity				6.50		
		kg	Steel assumed 125 Kg/Cum of Concrete				812.5		
	Basic rate							96.00	
	Area weightage 10%							9.60	
	Total						**3089.37**	**105.6**	**326237.26**
12	Providing and constructing load bearing wall with Solid Concrete blocks of size 400x200x200mm having block density more than 1800kg/m3 and minimum compressive strength of 4.00 N/mm2 conforming to IS 2185 (Part - I) - 2005 and constructed with CM 1:4 as per IS 2572:2005 including cost of all materials, labour, scaffolding and curing, usage charges of machinery etc complete as per specifications. (Vol 2/ P No-17/ I no- 6.32 of PWD SR 2021-22)								
	Ground Floor								
	Along long direction	Sqm	2	6.00		3.00	36.00		
	Along Short direction	Sqm	2	4.50		3.00	27.00		
	Deduction								
	Rolling Shutter	Sqm	-3	3		3.00	-27.00		
	Lintel	Sqm	-2	6		0.20	-2.40		
		Sqm	-2	4.5		0.20	-1.80		
	V	Sqm	-1	0.75		0.60	-0.45		
	Basic rate							1196.00	
	Area weightage 10%							119.60	
	Total						**31.35**	**1315.60**	**41244.06**
13	Providing and constructing load bearing wall with Solid Concrete blocks of size 400x150x200mm having block density more than 1800kg/m3 and minimum compressive strength of 4.00 N/mm2 conforming to IS 2185 (Part - I) - 2005 and constructed with CM 1:4 as per IS 2572:2005 including cost of all materials, labour, scaffolding and curing, usage charges of machinery etc complete as per specifications. (Vol 2/ P No-17/ I no- 6.33 of PWD SR 2021-22)								
	Parapet wall	Sqm	2	7.4		0.90	13.32		
		Sqm	2	6.1		0.90	10.98		
	Basic Rate							1061.00	
	Area weightage 10%							106.10	
	Total						**24.30**	**1167.10**	**28360.53**
14	Providing 20 mm cement plaster of mix :1:4 (1 cement: 4 fine sand) to brick/stone masonary including rounding off corners wherever required smooth rendering, providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications and as per directions of Engineer-in-charge (Vol 2/ P No-41/ I no- 8.3.1 of PWD SR 2021-22)								
	External Plastering								
	Along long Direction	Sqm	2	6.4		3.6	46.08		
	Along Short Direction	Sqm	2	5.4		3.6	38.88		
	parapet wall	Sqm	4	7.4		1.2	35.52		
		Sqm	4	6.1		1.2	29.28		
	Parapet Wall Upper Face	Sqm	2	7.4		0.15	2.22		
		Sqm	2	6.1		0.15	1.83		
	Deduction								
	Rolling Shutter	Sqm	-3	3		3	-27		

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Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
	V	Sqm	-1	0.75		0.6	-0.45		
	Basic Rate							299.00	
	Area weightage 10%							29.90	
	Total						**126.36**	**328.90**	**41559.80**
15	Providing 18 mm cement plaster in two coats under layer 12 mm thick cement plaster with cement mortar 1:5 (1 cement : 5 coarse sand) and a top layer 6 mm thick cement plaster with cement mortar 1:3 (1 cement: 3 coarse sand) finished rough with sponge to brick masonry including rounding off corners wherever required smooth rendering, providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications and as per directions of Engineer-in-charge. (PWD SR 2021-22 Vol -II Pg 42 item no 8.9)								
	Internal Plastering								
	Along long Direction	Sqm	2	5.00		3.45	34.5		
	Along Short Direction	Sqm	2	4.00		3.45	27.6		
	Deduction								
	Rolling Shutter	Sqm	-3	3		3	-27.00		
	V	Sqm	-1	0.75		0.6	-0.45		
	Basic Rate							322.00	
	Area weightage 10%							32.20	
	Total						**34.65**	**354.20**	**12273.03**
16	Providing 12mm thick cement plaster in floating coat of neat cement of mix :1:4 to Brick masonry including rounding off corners wherever reduired smooth rendering, providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications and as per diredtion of Engineer-in-charge(PWD SR 2021-22 Vol -II Pg 41 item no 8.4.2)								
	Ceiling	Sqm	1	7.4	6.4		47.36		
	Basic rate							262.00	
	Area weightage 10%							26.20	
	Total						**47.36**	**288.20**	**13649.15**
17	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete as per specifications and as per directions of Engineer in charge.(PWD SR 2021-22 Vol -II Pg 50 item no 8.51)								
	Ground Floor								
	for Internal plastered portions	Sqm	1	same as Internal plastering			34.65		
	ceiling	Sqm	1	same as plastering for beam + ceiling			47.36		
	Basic rate							83.00	
	Area weightage 10%							8.3	
	Total						**82.01**	**91.30**	**7487.51**
18	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade :Two coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture after thoroughly brooming the surface to remove all dirt, dust, mortar drops and foreign matter including preparing the surface even and sand paper smooth, cost of materials, labour complete as per specifications and as per directions of Engineer-in-charge. (PWD SR 2021-22 Vol -II Pg 48 item no 8.41)								
	Internal painting	Sqm	Same as Internal plastering				82.01		
	Basic rate							130.00	
	Area weightage 10%							13	
	Total						**82.01**	**143.00**	**11727.43**

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Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
19	Finishing walls with Acrylic Smooth exterior paint of required shade :New work (Two coat applied @ 1.67 ltr/10 m² over and including priming coat of exterior primer applied @ 2.20 kg/10 m²) with paint of approved quality to give an even shade, after thoroughly brooming the surface to remove all dirt, dust, mortar drops and foreign matter including preparing the surface even and sand paper smooth, cost of materials, labour complete as per specifications and as per directions of Engineer-in-charge.(PWD SR 2021-22 Vol -II Pg 46 item no 8.30)								
	External painting								
	Ground Floor	Sqm	Same as External plastering				126.36		
	Total							136.00	
	Area weightage 10%							13.60	
	Total						**126.36**	**149.60**	**18903.46**
20	Providing and laying Cement concrete flooring 40 mm thick with 20mm nominal size stone aggregate using 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry complete.(PWD SR 2021-22 Vol -II Pg 59 item no 9.1)								
		Sqm	1	7.4	6.4		47.36		
	Basic rate							400.00	
	Area weightage 10%							40	
	Total						**47.36**	**440.00**	**20838.40**
21	Providing and laying in position Reinforced cement concrete for all Sub structures of building, Irrigation works, Sub structure works of bridges, Drain works & other parallel works from 0.50m to 3.50 m height. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necesary, including all lead & lifts, cost of all materials of quality, confirming to the requirements of relevant IS codes, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork to be paid separately) Mix 1:2:4 (M15) Using 20 mm nominal size graded crushed coarse aggregates(PWD SR 2021-22 Vol -I Pg 17 item no 2.4.1)								
		Cum	1	7.4	6.4	0.1	4.74		
	Basic rate							5880.00	
	Area weightage 10%							588	
	Total						**4.74**	**6468.00**	**30632.45**
22	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing , curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge. ** Polished Granite stone slab Black, Cherry Red, Brown, Cat Eye, River Pink or equivalent. (PWD SR 2021-22 Vol -II Pg 63 item no 9.24)								
		Sqm	1	6.00	5.00		30.00		
	Basic rate							2870.00	
	Area weightage 10%							287	
	Total						**30**	**3157.00**	**94710.00**

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Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
23	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate sections and other sections of approved make conforming to IS: 733 and IS:1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately) Polyester powder coated aluminium (minimum thickness of polyester powder coating 50 micron) including cost of materials, labour, usage charges of machinery complete as per specifications.(PWD SR 2021-22 Vol -II Pg 88 item no 11.35.2.3)								
		Sqm	2	3.00		1.500	108.00		
	Basic rate			Assumed 12Kg per Sqm				463.00	
	Area weightage 10%							46.3	
	Total						**108.00**	**509.3**	**55004.40**
24	Providing and fixing 12 mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade l Type ll, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-incharge: Pre-laminated particle board with decorative lamination on one side and balancing lamination on other side including cost of materials, labour, usage charges of machinery complete as per specifications.(PWD SR 2021-22 Vol -II Pg 88 item no 11.35.2.3)								
		Sqm	2	3.00		1.7	10.20		
	Basic rate							801.00	
	Area weightage 10%							80.10	
	Total						**10.20**	**881.10**	**8987.22**
25	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete. Fixed to openings / wooden frames with rawl plugs screws etc. (PWD SR 2021-22 Vol -II Pg 85 item no 11.34B)								
	V	Kg	1.00			9.45	9.45		
			21kg per sqm 0.75*0.6*21						
	Basic rate							159.00	
	Area weightage 10%							15.90	
	Total						**9.45**	**174.90**	**1652.81**
26	Providing & fixing of louvered ventilator made out of multi chambered UPVC(Matching to RAL-9016) sections and with minimum TiO2(Titanium Dioxide) at 6PHR with TPE(Thermo Plastic Elastomer) and lead free with gaskets -grey colour having isolated drainage and reinforced with Galvanized Iron profile through-out the ventilator frame. The frame having overall size of 39mm x 39mm with GI reinforcement of 1mm thickness. Louver clip in Aluminium (powder coated in white) will be used on the frame along with plastic parts for fixing the 4 mm pin head glass. Wall thickness of frame shall be 2mm.Maximum possible size – 1000mm x 1000mm. (The cost is inclusive of all fixtures and separate charges for minor T&P's shall not be made). (PWD SR 2021-22 Vol -II Pg 110 item no 12.85)								
	V	Sqm	1	0.75		0.6	0.45	4870.00	
	Basic rate							487.00	
	Area weightage 10%						**0.45**	**5357.00**	**2410.65**
	Total								

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Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
27	Painting Steel work with Deluxe Multi Surface Paint to give an even shade. Two coat applied @ 0.90 ltr/10 m² over an under coat of primer applied @ 0.80 ltr/10 m² of approved brand and manufacture including preparing the surface after thorougly cleaning oil, grease, dirt and foreign matter, cost of materials, labour complete as per specifications and as per directions of Engineer-in-charge. (PWD SR 2021-22 Vol -II Pg 47 item no 8.33.3)								
	For window and ventilators Grills	sqm		ventilator qty			0.45		
	Basic rate							106.00	
	Area weightage 10%							10.60	
	Total						**0.45**	**116.60**	**52.47**
28	Providing and laying water proofing treatment to the Roof with PU based single component elastomeric pure polyurethane based coating on New terrace/Chajjas/Sunken portion of WC:Bathroom, cold applied PU waterproofing membrane that is highly elastic with elongation greater than 400% and tensile strength greater than 2MPa as per ASTM D412. The waterproofing membrane to be applied in 2coats @ 1.6kg per m2 to achieve final DFT (dry film thickness) of 1mm including prime coat of epoxy primer @150 g per m2 and protection with 120gsm Geo-textile over the waterproofing membrane. The finished cost to include surface preparation, making coving at Junction, Bore Packing, treatment of construction joints completely as per specification & with a 10 years warranty on product & work from certified manufacturers as per the direction of the Engineer In charge. (PWD SR 2021-22 Vol -II Pg 133 item no 15.1)								
	Terrace	Sqm	1.00	7.40	6.40		47.36		
	Basic rate							745.00	
	Area weightage 10%							74.50	
	Total						**47.36**	**819.50**	**38811.52**
29	Providing and laying water proofing treatment to the Water tanks & Liquid Retaining structures with two component acrylic polymer modified cementitious waterproofing membrane with minimum elongation of 50% applied @ 1.5 kg/m2 for internal side waterproofing in two layers with waiting period of 4-6 hrs per layer and food grade epoxy coating in two coats certified by CFTRI Mysuru, including surface preparation completely as per specification & with a 10 years warranty on product & work from certified manufacturers as per the direction of the Engineer In charge. (PWD SR 2021-22 Vol -II Pg 134 item no 15.6)								
	For sump								
	Bottom slab	Sqm	1	2.5	2.5		6.25		
	Sump walls	Sqm	2	2.5		2.0	10.00		
		Sqm	2	2.5		2.0	10.00		
	Cover slab	Sqm	1	2.5	2.5		6.25		
	Basic rate							455.00	
	Area weightage 10%							45.50	
	Total						**32.50**	**500.50**	**16266.25**
30	Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling shutters. 80x0.90 mm M.S. laths with 0.90 mm thick top cover including cost of materials, labour, usage charges of machinery complete as per specifications and as per directions of the Engineer-in-Charge.(PWD SR 2021-22 Vol -II Pg 76 item no 11.6.1)								
	Rolling Shutter	Sqm	2	3		3	18		

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Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
	Basic rate							2510.00	
	Area weightage 10%							251.00	
	Total						18.00	2761.00	**49698.00**
31	Providing and placing on terrace(at all floor levels), polyethylene water storage tanks as per IS 12701 marked,with cover and suitable locking arrangement and making necessary holes for inlet,outlet and overflow pipes but without fittings and the base support for tank(For 1000 litre capacity) (PWD SR 2021-22 1st Corrigenda Vol II.SI No.12.Item No 13.34).								
	Sintex								
		ltr	1000				1000.00		
	Basic rate							**8.00**	
	Area weightage 10%							**0.80**	
	Total						**1000.00**	**8.80**	**8800.00**
32	Supplying and installation of 3000 LPH RO drinking water treatment plant comprising of raw water strorage tank,anti rolling closing system with pump & tank sand filler activated carbon filter,High pressure pump,R.O membranes,R.O.Pressure Tubes, Skid house the complete R.O plant,control panel,Chemical cleaning tank,Ph dosing system with pump and dosing tank product water storage UV Sterilizer Interconnecting piping with SKID,complete instrumentation with necessary gauges and flow indicator as required in the plant with PH meter etc...								
		Nos.	1				1.00		
	Basic rate							**1050000.00**	
	Total						**1.00**	**1050000.00**	**1050000.00**
33	PTMT grating 100 mm dia.(PWD SR 2021-22 Vol II. PgNo.A-26 Item No 470)								
	Grating	Each	2				2.00		
	Basic rate							**16.00**	
	Area weightage 10%							**1.60**	
	Total						**2.00**	**17.60**	**35.20**
34	Providing and fixing brass bib cock of approved quality : 20 mm nominal bore (PWD SR 2021-22 Vol II. PgNo 115.Item No 13.2.2)								
	Bib Cock	Nos.	2				2.00		
	Basic rate							**345**	
	Area weightage 10%							**34.50**	
	Total						**2.00**	**379.50**	**759.00**
35	Providing and fixing brass stop cock of approved quality : 20 mm nominal bore (PWD SR 2021-22 Vol II. PgNo 115.Item No 13.3.2)								
	Stop Cock	Nos.	2				2.00		
	Basic rate							**345**	
	Area weightage 10%							**34.50**	
	Total						**2.00**	**379.50**	**759.00**
36	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete : 20 mm nominal bore (PWD SR 2021-22 Vol II. PgNo 115.Item No 13.5.2)								
	Valve	Nos.	2				2.00		
	Basic rate							**360**	
	Area weightage 10%							**36.00**	
	Total						**2.00**	**396.00**	**792.00**

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Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
37	Providing and fixing Chorinated Poly Venyl Chloride (CPVC) pipes conforming to IS 15778, having thermal stability for hot and cold water supply including all CPVC plain and brass threaded fittings including fixing the pipe with clamp at 1.00 mtr spacing. This includes jointing of pipes and fittings with one step CPVC solvent cement & the cost of cutting chases & making good the same including testing of joints complete. (Concealed work including cutting chases and good the walls etc.,) 20mm nominal dia pipes (PWD SR 2021-22 1st Corrigenda Vol II. SL No. 10 .Item No 13.32.2)								
	Pipe	m	20				20.00		
	Basic rate							373	
	Area weightage 10%							37.30	
	Total						20.00	410.30	8206.00
38	Providing and fixing on wall face unplasticised rigid PVC rain water pipes conforming to IS:13592 Type A, including jointing with seal ring conforming to IS:5382, leaving 10mm gap for thermal expansion, [i] single socketed pipes 100mm diameter (PWD SR 2021-22 1st Corrigenda Vol II. SL No. 27 .Item No 13.48)								
	Rain Water pipes	m	8				8.00		
	Basic rate							253	
	Area weightage 10%							25.30	
	Total						8.00	278.30	2226.40
39	Supply and delivery of Centrifugal pumpset at site brand new best make and with discharge duty confirming to ISI standards and its latest amendments2 HP, Size 50x40 Head 22M, Discharge 186 LPM (PWD SR 2021-22 Vol 5. Pg No. 164 .Item No 46.2)								
	motor	Each	1				1.00		
	Basic rate							17470.00	
	Area weightage 10%							1747.00	
	Total						1.00	19217.00	19217.00
40	Open conduit System: Supplying heavy gauge PVC conduit pipe ……dia confirming to IS 2509 with suitable size bends, plugs in case of RCC ceiling and RCC wall stone structure or rawl plugs in case of brick walls and cement plastering damaged portion using heavy gauge saddles at an interval of 700mm using WF screws.a) 19/20mm dia 2mm thick (PWD Electrical SR 2021-22 Chapter 1 PgNo 1.Item No 1.1.1)								
		m	20				20.00		
	Basic rate							68	
	Total						20.00	68.00	1360.00
41	Supplying and flush mounting teak wooden box without front plank, made of not less than 15mm thick wood, after due groove cutting, necessary masonry patch work complete. d)8''x6''x3''(203x152x76mm) (PWD Electrical SR 2021-22 Chapter 1 PgNo 2.Item No 1.6.4)								
		Each	4				4.00		
	Basic rate							75.00	
	Total						4.00	75.00	300.00
42	Point wiring using copper wire with switch Supplying and wiring adopting loop system in existing PVC Conduit/casing caping using Copper PVC insulated multi strand 2x1.5Sqmm copper wire with a 6Amps flush type SP control switch shall be fixied on the exisiting plastic sheet /gang box, the pther end of the wires shall be terminated with sufficient loose length in a wood/PVC round block.complete for each outlet. I. Point wiring using class A materials a) Short point upto 3Mtr from tapping point to out let via switch(PWD Electrical SR 2021-22 Chapter 2 PgNo 2.Item No 2.1.1)								

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Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
		Point	1				1.00		
	Basic rate							276.00	
	Total						**1.00**	**276.00**	**276.00**

43 Point wiring using copper wire with switch Supplying and wiring adopting loop system in existing PVC Conduit/casing caping using Copper PVC insulated multi strand 2x1.5Sqmm copper wire with a 6Amps flush type SP control switch shall be fixied on the exisiting plastic sheet /gang box, the pther end of the wires shall be terminated with sufficient loose length in a wood/PVC round block.complete for each outlet. I. Point wiring using class A materials b) Medium point above 3Mtr upto 6Mtr from tapping pointr to out let via switch(PWD Electrical SR 2021-22 Chapter 2 PgNo 3.Item No 2.1.2)

		Each	1				1.00		
	Basic rate							386.00	
	Total						**1.00**	**386.00**	**386.00**

44 Point wiring using copper wire with switch Supplying and wiring adopting loop system in existing PVC Conduit/casing caping using Copper PVC insulated multi strand 2x1.5Sqmm copper wire with a 6Amps flush type SP control switch shall be fixied on the exisiting plastic sheet /gang box, the pther end of the wires shall be terminated with sufficient loose length in a wood/PVC round block.complete for each outlet. I. Point wiring using class A materialsc)Long point above 6Mtr upto 10Mtr from tapping point to out let via switch (PWD Electrical SR 2021-22 Chapter 2 PgNo 3.Item No 2.1.3)

		Each	2				2.00		
	Basic rate							567	
	Total						**2.00**	**567.00**	**1134.00**

45 Supplying 6A flush/projected type socket and a 6 amps flush/ projected type SP switch either surface/flush mounting in a exisiting gang box or in a 4mm thick plastic sheet and fixing over a flush mounted wooden box and wiring using necessary capacity wires as required. b) 6Amps 3/5 way (PWD Electrical SR 2021-22 Chapter 2 PgNo 5.Item No 3.1.2)

		Each	1				1.00		
	Basic rate							143	
	Total						**1.00**	**143.00**	**143.00**

46 Wiring for lighting/power circuit using one of FLRS PVC insulated 1100v grade, multis and CopperWITH LOW conductor single core cable in open or consealed system of wiring.I Group A Materials.a) 1.5 sqmm (PWD Electrical SR 2021-22 Chapter 2 PgNo 3.Item No 2.3.2)

		m	20				20.00		
	Basic rate							26	
	Total						**20.00**	**26.00**	**520.00**

47 Wiring for lighting/power circuit using one of FLRS PVC insulated 1100v grade, multis and CopperWITH LOW conductor single core cable in open or consealed system of wiring.I Group A Materials.b)2.5Sqmm (PWD Electrical SR 2021-22 Chapter 2 PgNo 3.Item No 2.3.3)

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Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
		m	15				15.00		
	Basic rate							40	
	Total						**15.00**	**40.00**	**600.00**
48	Wiring for lighting/power circuit using one of FLRS PVC insulated 1100v grade, multis and CopperWITH LOW conductor single core cable in open or consealed system of wiring.I Group A Materials.c) 4 sqmm (PWD Electrical SR 2021-22 Chapter 2 PgNo 3.Item No 2.3.4)								
		m	25				25.00		
	Basic rate							59	
	Total						**25.00**	**59.00**	**1475.00**
49	Supplying 4mm thick plastic sheet with necessary niches for fixing switches, regulators etc., and fixing on exisiting wood or metal box using N.F.screws (PWD Electrical SR 2021-22 Chapter 2 PgNo 6.Item No 3.8)								
		Sq cm	1500				1500.00		
	Basic rate							0.29	
	Total						**1500.00**	**0.29**	**435.00**
50	Supplying and fixing pbbc bakelight stright or slant batton holderand wiring within 60v/230volts lamp group A								
		Each	4				4.00		
	Basic rate							88	
	Total						**4.00**	**88.00**	**352.00**
51	Supplying and fixing retrofit type -PL-LED lamp…W LED linear Source with CCT 6500 degree K, CRI>70%efficacy>80 lumen per watt,life>25000 burning hours and compliance to IS 10322/IEC 60598,LM 79 and LM80.The LED are driven by HF electronicdriver integrated in the system, with PF>0.95, power loss Should <5% of lam Wattage.,short Circuit and open circuit Protection to be integrated Circuit, THD less than 20%,life as per LM79.the operating input voltage should be between130 t 275 volts.Tested by NABL/CPRI accredited laboratory with 2 years Warranty agnist any manufacturing defect working under standard electrical condition.18-20Watts (PWD Electrical SR 2021-22 Chapter 11 PgNo 34.Item No 11.2.2)								
		Each	1				1.00		
	Basic rate							691	
	Total						**1.00**	**691.00**	**691.00**
52	Supply wall mountaing fan suitable to operate of single phase -230v A.C supply 400mm sweep a.group A (PWD Electrical SR 2021-22 Chapter 6 PgNo 23.Item No 6.5.2)								
		Each	1				1.00		
	Basic rate							2838	
	Total						**1.00**	**2838.00**	**2838.00**

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Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
53	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with .....W System Power consumption. LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 2 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer & Cree/Nichia/ Lumileds/Osram make LED Source.(PWD Electrical SR 2021-22 Chapter 11 PgNo 36.Item No 11.8)								
		Each	1				1.00		
	Basic rate							3651	
	Total						**1.00**	**3651.00**	**3651.00**
54	Supplying and fixing of T5 Fluorescent Tube with 14W power consumption with low 3mg Mercury content & below 40% glass content than T8 lamp & 20% less phosphor coating than T8 with initial lumen on 1350 (for 3000-6500 deg Kelvin), rated Avg life (12 Hr. Cycle) of greater than 35000 burring hours. Operating voltage range from 180V to 265V, 50Hz AC power Supply(PWD Electrical SR 2021-22 Chapter 12 PgNo 40.Item No 12.18.1)								
		Each	5				5.00		
	Basic rate							132	
	Total						**5.00**	**132.00**	**660.00**
55	Supply and fixing polished wood board made of not less than 15mm thick plank on both sides with plank made out of not more than 2 pices and fixing the same to the wall using tapered inverted woode plug screws etc., a) 20"x20"2.5" (PWD Electrical SR 2021-22 Chapter 5 PgNo 10.Item No 5.6.6)								
		Each	4				4.00		
	Basic rate							315	
	Total						**4.00**	**315.00**	**1260.00**
56	Supplying and fixing of Procelain fuse channel with cut out on exisiting wooden/panel using necessary nuts, bolts and washers etc., complete.a) 32Amps (PWD Electrical SR 2021-22 Chapter 5 PgNo 10.Item No 5.7.2)								
		Each	6				6.00		
	Basic rate							200	
	Total						**6.00**	**200.00**	**1200.00**
57	Supply of an load charge over switches 4poles 415v 50Hz A.C supply with AC23A duty a) up to 63amps Groups A (PWD Electrical SR 2021-22 Chapter 5 PgNo 11.Item No 5.11.1)								
		Each	1				1.00		
	Basic rate							5185	
	Total						**1.00**	**5185.00**	**5185.00**

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Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
58	Supplying and fixing miniature circuit breakers on existing MCB distribution boards using necessary fixing materials and C type curve indicator ON/OFF Energy cross 3 with short circuit breaking capacity of 10K and complete wiring as required. e)6-32amps TPN . Group A (PWD Electrical SR 2021-22 Chapter 5 PgNo 13.Item No 5.17.9)								
		Each	1				1.00		
	Basic rate							2399	
	Total						**1.00**	**2399.00**	**2399.00**
59	Supplying and fixing miniature circuit breakers on existing MCB distribution boards using necessary fixing materials and C type curve indicator ON/OFF Energy cross 3 with short circuit breaking capacity of 10K and complete wiring as required. 6-32amps TPN Group A (PWD Electrical SR 2021-22 Chapter 5 PgNo 13.Item No 5.17.7)								
		Each	3				3.00		
	Basic rate							1777	
	Total						**3.00**	**1777.00**	**5331.00**
60	Supplying, fixing and wiring Electronic Trivector Meter (ETV) 5 to 32/63 A three phase 4 wire whole current class-1 Accuracy Energy Meter.(PWD Electrical SR 2021-22 Chapter 5 PgNo 13.Item No 5.35)								
		Each`	1				1.00		
	Basic rate							5125	
	Total						**1.00**	**5125.00**	**5125.00**
61	Supplying, fixing, wiring, earth electrode for grounding conduits, I.C. cutouts and other equipments on the meter board using 40mm dia 2.90 thick Gl pipe 2.5 mtr long buried in a pit … The pit should be filled with equal proprotion of salt and charcoal 150mm alround the pipe to complete depth. the connection form the pipe to the conduit etc, is to be established through Gl wire of size as oer ISI specification 7.3.3. of IS 732 using 12mm dia bolts, nuts, washers and checknuts etc, the pipe shall have 16 through holes of 12mm dia								
		Nos.	4				4.00		
	Basic rate							2999	
	Total						**4.00**	**2999.00**	**11996.00**
62	Supplying and running of GI/Copper strips for grounding connections using necessary fixing material as required GI strip 25x3mm								
		m	20				20.00		
	Basic rate							75	
	Total						**20.00**	**75.00**	**1500.00**
63	Supplying of LT UG cable having aluminium conductor PVC insulated, sheathed, galvanished, steel wire/steel tap armoured cable with PVC outer sheating 1.1 KV class.I. Class 'A' PVC Cable.d) 4 core 16 sqmm								
		m	16				16.00		
	Basic rate							150	
	Total						**16.00**	**150.00**	**2400.00**
64	Labour charges for lying of 1.1 KV class UG cable when supplied agency in existing trench Gl pipe / stoneware pipe / on wall /on pole as required. I. In existing trench/duct.a) 6 sqmm to 16 sqmm								
		m	15				15.00		

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Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
	Basic rate							11.88	
	Total						**15.00**	**11.88**	**178.20**
65	Digging of trench of 0.6 m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc.,complete. .a) In soil (ordinary)								
		m	20				20.00		
	Basic rate							76	
	Total						**20.00**	**76.00**	**1520.00**
66	Supplying and fixing of class A (medium duty) Gl pipe of wall thick ness not less than 3.25mm on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1 KV class. a) 40mm								
		m	15				15.00		
	Basic rate							335	
	Total						**15.00**	**335.00**	**5025.00**
67	Supplying &fixing L.T.cast iron pot heads suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound complete with terminals, clamps, bolts, nuts and washers ect.b) 16 Sqmm								
		Each	5				5.00		
	Basic rate							270	
	Total						**5.00**	**270.00**	**1350.00**
68	Providing BESCOM deposits excuding ESCOM 3 pahse energy meter (as per intimation letter from ESCOMS) for 10hp 3phase power supply under LT-5 tariff.								
		L.S	1				1.00		
	Total						**1.00**	**10000.00**	**10000.00**

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Sl No	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
								Total	2287956.94
								GST Charges (18% of estimated cost)	411832.2
								Miscellaneous and Rounding off	210.8
								Grand Total	2700000.00

(Thirty lakhs only)

CERTIFICATE:

1) The work spot has been inspected and found to be necessary
2) The work spot comes under B.B.M.P
3) The provisions made in the estimate are necessary and minimum.
4) The estimate is based on S.R of 2021-2022, PWD Electrical SR 2021-22, Data Rates, Issused Rates and Corrigenda 1 & 2.

Administrative Approval
Accorded For ...27.00 lakhs
Head of A/C...P:3726...
CER NO :....43..... Dt:22/8/2022

Technical Sanction
Accorded For ...27.00 lakhs
Head of A/C..P:3726....
CER NO :....70..... Dt:22/8/22

Assistant Engineer
BBMP

Assistant Executive Engineer
BBMP
Asst. Executive Engineer
Yelahanka Sub. Divison
(BBMP Ynk. Zn)
Yelahanka, Bangalore

Executive Engineer
BBMP

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